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09/312,150	05/14/1999	PHILIP J. MIRE	M-7219-US	2203

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EXAMINER

MOORTHY, ARAVIND K

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/312,150

Applicant(s)

MIRE, PHILIP J.

Examiner

Aravind K Moorthy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7-12,18-23 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 2-6,13-17 and 24-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7-12,18-23 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-29 are pending in the application.
2. Claims 2-6, 13-17 and 24-28 have been cancelled.
3. Claims 1, 7-12, 18-23 and 29 have been rejected.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 4, 5, 7, 8, 12, 15, 16, 18, 19, 23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipner et al U.S. Patent No. 5,557,346 in view of Lohstroh et al U.S. Patent No. 5,768,373.**

As to claims 1, 12 and 23, Lipner et al discloses a method for encrypting data, the method comprising:

providing a data processing system for:

generating a session key [column 11, lines 13-20];

encrypting the data utilizing the session key using a symmetric

encryption routine [column 11, lines 13-20];

encrypting the session key utilizing a user public key [column 11, lines 21-23];

encrypting the session key utilizing a master public key [column 11, lines 27-29];

generating a data packet including the encrypted data, the encrypted session key utilizing the user public key and the encrypted session key utilizing the master public key [column 11, lines 34-48];

transmitting the data packet to a destination data processing system [column 11, lines 34-48];

decrypting the data packet utilizing the session key using the symmetric encryption routine [column 11, lines 54-60];

decrypting the session key utilizing a user private key [column 11, lines 54-60]; and

decrypting the encrypted session key utilizing a master private key [column 12, lines 29-58].

Lipner et al does not teach using a first and second asymmetric encryption routine for encryption and decryption.

Lohstroh et al teaches encrypting and decrypting keys with a first and second asymmetric encryption routine [column 7, lines 29-53].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lipner et al so that a session key would have been generated. Data would have been encrypted utilizing the session key using a symmetric

encryption routine. The session key would have been encrypted utilizing a user public key using a first asymmetric encryption routine. The session key would have been encrypted utilizing a master public key using a second asymmetric encryption routine. A data packet would have been generated including the encrypted data, the encrypted session key utilizing the user public key and the encrypted session key utilizing the master public key. The data packet would have been transmitted to the destination data processing system. The data packet would have been decrypted utilizing the session key using the symmetric encryption routine. The session key would have been decrypted utilizing a user private key using the first asymmetric encryption routine. The encrypted session key would have been decrypted utilizing a master private key using the second asymmetric encryption routine.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Lipner et al by the teaching of Lohstroh et al because in the event on routine is compromised, there is the added security of having the session key encrypted with a second asymmetric encryption routine.

As to claims 4, 15 and 26, Lipner et al teaches encrypting the session key utilizing an asymmetric encryption routine [column 9, lines 47-57].

As to claims 5, 16 and 27, Lipner et al teaches encrypting the data utilizing a symmetric encryption routine [column 11, lines 34-42].

As to claims 7 and 18, Lipner et al teaches storing a user's private key on a data storage medium coupled to the destination data processing system [column 12, lines 29-39].

As to claims 8 and 19, Lipner et al teaches storing the master private key on a data storage medium coupled to the destination data processing system [column 12, lines 40-58].

**6. Claims 9, 10, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipner et al U.S. Patent No. 5,557,346 and Lohstroh et al U.S. Patent No. 5,768,373 as applied to claims 1 and 12 above, and further in view of Dillaway et al U.S. Patent No. 5,742,756.**

As to claims 9 and 20, the Lipner-Lohstroh combination does not teach retrieving the user's private key from a smart card utilizing a smart card reader coupled to the destination data processing system.

Dillaway teaches private key stored on a smart card utilizing a smart card reader coupled to the destination data processing system [figure 2].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination so that the user's private key is stored on a smart card coupled to the destination node. The private key is only retrieved when the smart card is inserted into the smart card reader.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination by the teaching of Dillaway because it utilizes a smart card to perform critical cryptography operations. The smart Card can be programmed or otherwise configured to never expose the user's private keys. Rather than providing a private key to the user's computer, the key is held within the smart Card, and required cryptographic operations are performed on the smart Card itself. This makes it impossible for hostile code to obtain the private key [column 3, lines 24-31].

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As to claims 10 and 21, the Lipner-Lohstroh combination does not teach retrieving the master private key from a smart card utilizing a smart card reader coupled to the destination data processing system.

Dillaway teaches private key stored on a smart card utilizing a smart card reader coupled to the destination data processing system [figure 2].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination so that the master private key is stored on a smart card coupled to the destination node. The master private key is only retrieved when the smart card is inserted into the smart card reader.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination by the teaching of Dillaway because it utilizes a smart card to perform critical cryptography operations. The smart card can be programmed or otherwise configured to never expose the user's private keys. Rather than providing a private key to the user's computer, the key is held within the smart card, and required cryptographic operations are performed on the smart card itself. This makes it impossible for hostile code to obtain the private key [column 3, lines 24-31].

**7. Claims 11, 22 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipner et al U.S. Patent No. 5,557,346 and Lohstroh et al U.S. Patent No. 5,768,373 as applied to claims 1, 12 and 23 above, and further in view of Kruys U.S. Patent No. 5,555,309.**

As to claims 11, 22 and 29, the Lipner-Lohstroh combination does not teach utilizing a plurality of public master keys and a plurality of private master keys to decrypt the encrypted session key.

Kruys teaches a plurality of master keys [column 2, lines 56-67].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination so that there would have been a plurality of public and private master keys to decrypt the encrypted session keys. There would have been multiple session keys so there would have been a public/private master key set to encrypt and decrypt the session keys.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Lipner-Lohstroh combination by the teaching of Kruys because it utilizes master keys, each one of which is unique to a respective domain member, and is arranged to protect the respective member vector key of each domain member [column 3, lines 55-62].

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy  
November 5, 2004

  
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